

REMARKS

I. INTRODUCTION

Applicants have cancelled claims 11-12 drawn to a non-elected invention. Accordingly, claims 1-10 are presently pending in this application. Applicants respectfully request reconsideration of the application in view of the following arguments.

II. REJECTION OF CLAIMS 1 AND 3-10 UNDER 35 U.S.C. § 103(A)

Claims 1 and 3-10 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Simon (U.S. Patent No. 6,439,672) in view of Ebbinghaus et al. (U.S. Patent No. 5,259,268). Applicants respectfully submit that the rejection of claims 1 and 3-10 under 35 U.S.C. § 103(a) is improper because the combination of references cited by the Examiner fail to disclose or suggest all of the limitations in the claims and because there is no suggestion or motivation to combine the teachings of Simon and Ebbinghaus et al..

“Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case.” MPEP § 2141 (emphasis in original).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

MPEP § 2143. Applicants submit that the combination of Simon and Ebbinghaus et al. fails to teach or suggest all of the limitations set forth in the claims and that there is no suggestion or motivation to combine the teachings of Simon and Ebbinghaus et al.

Independent claim 1 recites “an axle assembly” having a tube with “first and second end portions and a center portion.” The “center portion has a cross-sectional wall thickness that is uniform at first and second axially spaced segments and a non-uniform cross-sectional wall thickness both between the axially spaced segments and between each of the axially spaced segments and said tube end portions.” Independent claim 10 recites substantially similar limitations. Applicants submit that the combination of Simon and Ebbinghaus et al. does not disclose or suggest an axle assembly meeting the above-recited limitations.

Simon discloses an axle tube having a non-uniform wall thickness. With reference to the terms used in claims 1 and 10, the Examiner identifies a portion of the axle tube designated as 11 as corresponding to a portion of the “center portion” disposed between the “axially spaced segments” designated as 18 and the “end portions” designated as 20. The Examiner acknowledges that Simon does not disclose that the portion of the center portion 11 between segments 18 and end portions 20 is “non-uniform” as recited in claims 1 and 10, but argues that Ebbinghaus et al. disclose a tube meeting this limitation, stating as follows:

Ebbinghaus et al. teaches the use of a shaft tube 12 with an end portion having a uniform cross-sectional wall thickness (see the left side of Figure 1). A center portion of the tube 12 has an axially spaced segment with a uniform cross-sectional wall thickness, with a second axially spaced segment (generally at 14) having a non-uniform cross-sectional wall thickness between both the axially spaced segments and between the axially spaced segment 14 and the end portion of the tube 12 (see Figure 2).

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Applicants first note that the Examiner’s stated reasoning is difficult to understand. The only portion of the tube in Ebbinghaus et al. identified by the Examiner

as having a non-uniform cross-sectional wall thickness is identified as “(generally at 14).” The Examiner also labels this section, however, as corresponding to an “axially spaced segment.” As set forth in Applicants’ claims, the “axially spaced segments” have a *uniform* cross-sectional wall thickness and it is the portions of the tube (i) between the axially spaced segments and (ii) between the axially spaced segments and the end portions that are *non-uniform*. Applicants respectfully submit that the section identified by 14 cannot be both an “axially spaced segment” within the meaning of the claims and also represent a portion of the tube between the axially spaced segments or between the axially spaced segments and the end portions. If the Examiner intends to continue reliance on Ebbinghaus et al., Applicants respectfully request that the Examiner clarify the nature of the rejection.

Irrespective of the Examiner’s intended labeling of the tube 12 in Ebbinghaus et al., however, Ebbinghaus et al. do not disclose a tube meeting the limitations recited in independent claims 1 and 10. Although the wall thickness of the tube 12 in Ebbinghaus et al. varies moving *longitudinally* along the tube, the wall thickness is uniform at any point along the longitudinal extent of the tube 12. In other words, Ebbinghaus et al. do not disclose or suggest a non-uniform *cross-sectional* wall thickness at any point along tube 12. To the extent that the Examiner is relying on the element labeled 14 in Ebbinghaus et al. to show a non-uniform cross-sectional thickness, this reliance is misplaced because element 14 is not a part of the tube 12, but rather a structural element (in this case a cam) that is coupled to the tube—much like the suspension components coupled to an axle tube recited in Applicants’ claims. To the extent that the Examiner is relying on the tear-drop shape of the tube 12 as illustrated in Figure 2, this reliance is also

misplaced as there is no disclosure or suggestion that the cross-sectional wall thickness at this point is non-uniform despite the tear-drop shape.

Applicants further again submit that there is no suggestion or motivation to combine the teachings of Simon and Ebbinghaus et al. As stated above, the Examiner proposes modifying portion 11 of the Simon axle to have a non-uniform wall thickness as allegedly taught by Ebbinghaus et al.. Portion 11, however, is “sized to abut, in face-to-face contact, the annular end face 19 formed on the adjacent end of the tube 11.” Simon, Col. 4, lines 10-13. If portion 22 were made of non-uniform thickness, the surface contact between portions 18 and 22 would be reduced thereby weakening the joint. In responding to a similar argument made in Applicants’ prior response, the Examiner argues that proper welds could be provided for “increased strength.” Applicants respectfully submit that the requirement to compensate for the weakened joint through precision welding (with its resulting increase in assembly time) specifically counsels against making the modification.

Because the combination of references cited by the Examiner does not disclose or suggest an axle assembly meeting all of the limitations recited in independent claims 1 and 10 and because there is no suggestion or motivation to combine the teachings of Simon and Ebbinghaus et al., Applicants submit that the rejection of claims 1 and 10 under 35 U.S.C. § 103(a) is improper. Accordingly, Applicants request that the rejection of claims 1 and 10 under 35 U.S.C. § 103(a) be withdrawn. Further, at least because each of claims 3-9 depend from independent claim 1, Applicants submit that the rejection of claims 3-9 under 35 U.S.C. § 103(a) is improper and request that the rejection be withdrawn.

III. REJECTION OF CLAIM 2 UNDER 35 U.S.C. § 103(A)

Claim 2 stands rejected as being unpatentable under 35 U.S.C. § 103(a) over Simon (U.S. Patent No. 6,439,672) in view of Ebbinghaus et al. (U.S. Patent No. 5,259,268) and further in view of Alexoff (U.S. Patent NO. 6,779,735). Applicants respectfully submit that the rejection of claim 2 under 35 U.S.C. § 103(a) is improper because the combination of references cited by the Examiner fail to disclose or suggest all of the limitations in the claims and because there is no suggestion or motivation to combine the teachings of Simon and Ebbinghaus et al..

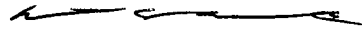
Claim 2 depends from independent claim 1 and therefore incorporates all of the limitations set forth in independent claim 1. As set forth hereinabove in Section II, the combination of Simon and Ebbinghaus et al. fails to disclose or suggest a tube having a non-uniform cross-sectional wall thickness between each end portion and a corresponding axially spaced segment of the center portion of the tube. Applicants submit that Alexoff also fails to disclose or suggest a tube meeting this limitation as discussed in Applicants reply to the first office action in this matter.

Because the combination of Simon, Ebbinghaus et al. and Alexoff fails to disclose or suggest an axle assembly meeting all of the limitations set forth in claim 2 and because there is no suggestion to combine the teachings of Simon and Ebbinghaus et al. (see Section II), Applicants submit that the rejection of claim 2 under 35 U.S.C. § 103(a) is improper. Accordingly, Applicants request that the rejection of claim 2 under 35 U.S.C. § 103(a) be withdrawn.

IV. CONCLUSION

For the above cited reasons, all of the claims presently pending in this application are believed to be allowable. If the Examiner has any further questions or concerns, the Examiner is invited to contact the Applicant's undersigned attorney.

Respectfully submitted,



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